FREQUENTLY ASKED QUESTIONS AND GUIDELINES FOR COMPLIANCE WITH THE TRU ATCM

FOR

OPERATORS OF TRUs AND TRU GENERATOR SETS, AND FACILITIES WHERE TRUs OPERATE

California Environmental Protection Agency
Air Resources Board

Stationary Source Division
Emissions Assessment Branch

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GUIDELINES FOR
In-Use Diesel-Fueled Transport Refrigeration Units (TRU)
and TRU Generator Sets,
and Facilities Where TRUs Operate

TABLE OF CONTENTS

I. Introduction

This document provides guidance to parties affected by the Transport Refrigeration Unit (TRU) Airborne Toxic Control Measure (ATCM) in plain English in a FAQ (Frequently Asked Questions) format. If this guidance creates conflicts in interpretation, the regulatory language of the TRU ATCM (13 CCR §2477) shall have higher legal authority. This document may be updated from time to time with or without notice.

II. General Overview

At its February 2004 public hearing, the California Air Resources Board (ARB) approved the *Airborne Toxic Control Measure for Diesel-Fueled Transport Refrigeration Units and TRU Generator Sets, and Facilities Where TRUs Operate*. The TRU ATCM is designed to use a phased approach over about 15 years to reduce the diesel particulate matter (PM) emissions from in-use TRU and TRU generator set engines that operate in California. The new rule became effective December 10, 2004, and can be found in title 13, California Code of Regulations, section 2477. The rule can be downloaded at:

http:www.arb.ca.gov/regact/trude03/trude03.htm.

Unless otherwise specified, all references to TRUs include both TRUs and TRU generator sets.

1. Is there a lawsuit to stop implementation and enforcement of this regulation?

No.

2. Has U.S. EPA approved the California Air Resources Board's waiver application? And if not, will this prevent the ARB from enforcing the TRU ATCM?

No (to both questions). U.S. EPA has indicated they will make a decision regarding ARB's waiver application by the end of 2007. ARB is confident U.S. EPA will approve the waiver application. ARB is required by State law to implement and enforce this regulation. The lack of a decision by U.S. EPA does not limit ARB's mandate under state law.

3. Why is diesel PM of concern?

In 1998, the Board identified diesel PM as a toxic air contaminant (TAC). Diesel exhaust is a complex mixture of thousands of gases and fine particles that contains more than 40 identified TACs. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. Because of the amount of emissions to California's air and its potency, diesel PM is the number one contributor to the adverse health impacts of TACs known today. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

4. What is the definition of TRU?

Transport Refrigeration Unit (TRU) means refrigeration systems powered by integral internal combustion engines designed to control the environment of temperature sensitive products that are transported in trucks, trailers, railcars, and shipping containers. TRUs may be capable of both cooling and heating.

5. Who is affected by the TRU ATCM?

The TRU ATCM applies to owners and operators of diesel-fueled TRUs and TRU generator sets that operate in California, irrespective of whether they are registered in or outside the State. This includes all carriers that transport perishable goods using diesel-powered refrigeration systems on trucks, trailers, shipping containers, and railcars that operate in California. Facilities with 20 or more loading dock doors serving refrigerated areas where perishable goods are loaded or unloaded for distribution on trucks, trailers, shipping containers, or railcars that are under facility control will also be affected.

6. What are the basic requirements of the TRU ATCM?

Applicable facilities will be required to submit a one-time report to ARB that provides information about the size and type of facility, and the TRU activity that occurs at the facility. This information is needed to evaluate the overall effectiveness of the regulation in reducing diesel PM concentrations near facilities where numerous TRUs operate. See Section III for more information.

The requirements for TRU operators are described in Section IV For Operators of TRUs of this guidance. TRU engines must meet in-use performance standards. Compliance with the in-use performance standards is achieved by using an engine that is certified to meet the engine certification value, installing the required level of verified diesel emission control strategy (VDECS), or using one of the Alternative Technologies.

Owners of TRUs based in California will be required to apply for an ARB identification number (IDN) and submit an Initial Operator Report to ARB that provides information about the TRUs they operate in California. The regulation also requires Operator Report Updates and IDN Information Revisions to be submitted to ARB within 30 days of information changes. The information is needed to assist in the implementation of the ATCM. Owner/operators of non-California-based TRUs and TRU generator sets that are used in California may choose to voluntarily apply for an IDN. The coded identification numbers include information that will reduce roadside inspection time.

7. When does this regulation go into effect?

The regulation effective date was December 10, 2004. The first significant compliance date was January 31, 2006, when facility reports were due for affected California facilities, which must also conduct recordkeeping in 2005. See Section III For Facilities Where TRUs Operate for more information.

Applications for an ARB identification number (IDN) for all California-based TRUs and TRU generator sets and the Initial Operator Reports are due on or before the January 31, 2009.

TRUs and TRU generator sets that operate in California will be required to meet the in-use performance standards on a phased compliance schedule, based on the engine model year, beginning December 31, 2008. More details on operator compliance requirements and deadlines are provided below in Section IV For Operators of TRUs.

8. Do the local air districts have a role in enforcement?

Air districts can enforce their nuisance and opacity rules and regulations that generally apply to all emissions sources. In addition, air districts may report complaints about potential TRU ATCM violations to ARB Enforcement Division for follow-up. But, Section 39618 of the California Health and Safety Code specifically authorizes the ARB to regulate refrigerated trailers as mobile sources on a statewide basis to prevent confusion about whether they are stationary or mobile sources and to prevent inconsistent regulation by air districts. So, air districts would not be enforcing the TRU ATCM.

III. For Facilities Where TRUs Operate:

1. What is the definition of "Facility?"

"Facility" means any location where TRU-equipped trucks, trailers, shipping containers or railcars are loaded or unloaded with perishable goods. A facility includes, but is not limited to, grocery distribution centers, food service distribution centers, cold storage warehouses, and certain intermodal facilities. Each business entity at a commercial development is a separate facility for the purposes of this regulation, provided the businesses are "independently owned and operated."

2. Which facilities are subject to the facility reporting requirements the TRU ATCM?

That depends. If the facility was operating at any time during 2005 and the answer is "Yes" to all of the following questions, then the facility is subject to the facility reporting requirements of the regulation. If the answer is "No" to any one of these questions, then the facility is not subject to the Facility Reporting requirements of the ATCM.

- ✓ Do TRUs operate at the facility?
- ✓ Does the facility have 20 or more loading dock doors serving refrigerated areas?
- ✓ Are perishable goods loaded or unloaded for distribution on trucks, trailers, shipping containers, or railcars?
- ✓ Are any TRUs owned, leased or contracted for by the facility?
- ✓ Are any of the "TRUs under facility control?" (See below.)

Facilities next door to each other with a contiguous property boundary and owned or operated by the same parent company, affiliate, or subsidiary shall be considered a single facility for the purposes of determining whether it is subject to this regulation.

3. What does "TRUs under facility control" mean?

Facility Control (of TRUs or TRU Gen Sets) means:
a) The TRUs or TRU gen sets located at the facility that are owned or leased by the facility, its parent company, affiliate, or a subsidiary, or under contract for the purpose of providing carrier service to the facility, and
b) The TRUs' or TRU gen sets' arrival, departure, loading, unloading, shipping and/or receiving of cargo is determined by the facility, parent company, affiliate, or subsidiary (e.g scheduled receiving, dispatched shipments).

4. What recordkeeping is required by facilities?

Affected facilities are required to keep records that substantiates the information reported in the Facility Report. These records shall be maintained and shall be compiled and made available to State inspectors upon request, for at least three (3) years. Most facilities already keep records related to most of the required information; however, new recordkeeping systems may be necessary for several required reporting items.

5. What are the reporting requirements that apply to facilities?

Facilities subject to the TRU ATCM (see #2, above) are required to submit a one-time report to ARB. Three reporting forms are required and can be downloaded from the TRU website (http://www.arb.ca.gov/diesel/tru.htm):

a) Business Form (pick the appropriate form for the type of business (e.g. partnership, corporation, limited liability corporation)
b) Facility Reporting Form
c) TRU Inventory Form

6. How do I calculate the average weekly number of refrigerated trucks, trailers, railcars, and shipping containers?

a) From your records, count the total number of refrigerated *inbound* deliveries for the year 2005.
b) Divide the total annual number of *inbound* deliveries by 52 to get the average weekly number of *inbound* refrigerated trucks, trailers, railcars and shipping containers. Report this value.

Use a similar approach to calculate the average weekly number of *outbound* refrigerated trucks, trailers, railcars, and shipping containers.

7. We don't currently track TRU engine run time at facilities, so what approaches can we use to collect this data?

Facilities that don't currently track TRU engine run time at the facility have a number of options:

a) Facilities may need to set up recordkeeping systems to collect this data. It could be that TRU engine hour meter readings are taken when each unit enters and leaves the facility gates. The records would include the date and indicate whether the TRU was entering or leaving the facility and whether it included refrigerated goods or not. For each load, calculate the TRU engine run time that occurred while the TRU was at the facility.

b) Certain facilities may qualify to use ARB-approved alternative recordkeeping and calculation procedures for tracking TRU engine run time at the facility (see # 10, below).

For inbound refrigerated loads, if some drivers are not allowed to take hour meter readings due to vendor procedures, facilities may use gate time stamps or check-in and departure times. You must use hour meter readings when possible. If drivers don't know how to read the engine hour meter, the facility could obtain hour meter reading procedures from TRU manufacturers and provide the instructions to the driver. Where hour meter readings are not possible and gate time stamps or check-in and departure times are used, the assumption is that these engines operate all of the time they are at the facility. This may result in an overestimate of the TRU engine run time at the facility. By using this alternative approach, the facility is accepting this consequence. The facility should notify ARB when this occurs and provide the percentage of inbound refrigerated loads this deviation applies to in a cover letter to the Facility Report. Also include an explanation of the facility's standard operating procedures related to TRU operation of inbound refrigerated deliveries.

8. What recordkeeping is required for TRUs used for cold storage?

When trucks, trailers, shipping containers or railcars are used for cold storage (see next item for what qualifies as “used for cold storage”), the total annual number of hours of TRU engine operation associated with this use, and the total annual number of hours of operation using electric standby associated with this use must be reported. The recordkeeping system will have to manage the data so that these TRU operations can be reported separate from the average TRU engine operating time per inbound and outbound refrigerated loads.

- Cold storage TRU logs would include the following, as a minimum:
  - Date, time, and TRU engine hour meter readings for start-up and shut-down used to determine elapsed TRU engine operating time related to cold storage operations.
  - Electric standby time (if applicable).
  - Unit identification (e.g. TRU, trailer, truck, shipping container, or rail car I.D. number).

9. How long can an inbound load sit in the yard before it should be counted as cold storage?

If the handling of the load in question deviates from the normal practices for inbound loads, or the use of a refrigerated trailer for temporary storage was planned, or when it wasn't planned, but the load was parked in the yard for more than 24 hours, then the use should be considered cold storage. All of the TRU engine run time from the time it came in the gate until it was unloaded and shut down should be considered cold storage, regardless of whether the trailer was parked in a "storage area" or backed up to a loading dock. None of the engine operating time during cold storage use should be attributed to inbound load engine operating time.

10. What recordkeeping is required for TRU engine operating time per inbound and outbound load at the facility? (This question refers to Facility Reporting Form items #19 and #20.)

For the average weekly hours of TRU engine operation at a facility for inbound and outbound refrigerated loads, most facilities will need to create new recordkeeping systems. Some facilities may need a full year of recordkeeping, but most may qualify for abbreviated alternative recordkeeping. Alternative recordkeeping and calculation procedures may be used for determining the *average TRU engine operating time per inbound and outbound refrigerated load*, provided ARB finds that the alternative procedures meet the intent of the recordkeeping requirements. The results must be representative of actual TRU operations at the facility.

The following recordkeeping protocol has been approved for determining the *average TRU engine operating time per inbound and outbound refrigerated load* for use at grocery distribution facilities, foodservice distribution facilities, and other facilities that check refrigerated loads in and out through a gate. Please note that this protocol applies only to determining the *average TRU engine operating time per inbound and outbound refrigerated load.*

- At a minimum, TRU engine hour meter readings must be collected over two 48-hour periods:
  - One 48-hour period shall be in the summer (between June 21st and September 21st), and
  - One 48-hour period shall be in the winter (between December 21st and March 19th).
  - Other 48-hour periods may be monitored, provided they are shown to produce averages that are representative of overall operations that cover seasonal and operational variations. ARB approval is required for alternative 48-hour periods outside the periods above.
- The summer and winter TRU engine operating time data for inbound loads are to be combined together and the average calculated to determine the *average TRU engine operating time at the facility per inbound load*.
- The summer and winter TRU engine operating time data for outbound loads are to be combined together and the average calculated to determine the *average TRU engine operating time at the facility per outbound load*.
- TRU engine hour meter readings must be taken from all TRUs as they enter and leave the facility.
- Only TRU engine operating times from refrigerated inbound deliveries and refrigerated outbound shipments shall be included in the calculation of *average TRU engine operating time per inbound and outbound refrigerated load*. Hour meter readings taken at gate entry for inbound deliveries of dry-goods-only loads and at gate exit for outbound shipments of dry-goods-only loads (where the TRU is not used) may need to be disregarded, depending on the circumstances, to prevent erroneous inputs to the averaging calculation. See "Examples of hour meter reading cases," listed at the end of Section III.
- Data recording logs must include enough information to facilitate calculation of elapsed TRU engine operating time for refrigerated loads and also differentiate hours of TRU engine use for cold storage operations. Although the original data may need to be compiled together chronologically, the data needs to be separated into logs for cold storage operations and normal TRU operations.
  - Gate logs would include the following data, as a minimum:
    - Date, time and hour meter reading when the TRU-equipped truck, trailer, railcar, or shipping container enters and exits facility.
    - Unit identification (e.g. TRU, trailer, truck, shipping container, or rail car I.D. number).
    - An indication of whether the reading is taken as the unit is entering or leaving the facility. This will facilitate matching up meter readings to determine elapsed TRU engine operating time.
    - An indication of whether a TRU-equipped truck, trailer, railcar, or shipping container is hauling a dry-goods-only load where the TRU is not being used. This indication would later be used to determine if the required hour meter reading should be used to calculate TRU operating time at the facility (see "Examples of hour meter reading cases," below).

Other data gathering protocols for determining the *average TRU engine operating time per inbound and outbound refrigerated load* may be reviewed by the ARB upon application. Written approval would be required for all other alternative facility recordkeeping and calculation protocols.

11. How do I calculate the average number of hours per week that outbound TRU engines operate at the facility?

Average TRU engine operating time per outbound refrigerated load would be determined based on recordkeeping, as described above.

If hour meter readings were taken throughout the year 2005, then add together all engine operating time while at the facility for outbound loads. Divide this by 52 weeks per year to get the average total number of hours per week that outbound TRU engines operate while at the facility. Report this value.

If the abbreviated alternative recordkeeping protocol described above was used, the *average TRU engine operating time per outbound load* would be applied to the total annual number of refrigerated outbound loads and then weekly averages calculated as follows:

Multiply the *average TRU engine operating time per outbound refrigerated load* by the total number of outbound loads per year and then divide by 52 weeks per year to get the average total number of hours per week that outbound TRU engines operate while at the facility. Report this value.

Example calculation:

Given: The average TRU engine operating time per outbound refrigerated load equals 6 hours per load and, the total number of refrigerated outbound loads per year = 10,000 loads/yr.

Then, the average total number of hours per week that outbound TRU engines operate while at the facility equals:

(6 hrs/load X 10,000 loads/year)/(52 weeks/year) = 1,154 hours per week (outbound)

Note: The approach is similar for calculating the *average number of hours per week that inbound TRU engines operate at the facility*.

12. Does a facility need to file a report if it owns no TRUs/TRU gen sets itself, but does control how such equipment is operated when at the facility?

Yes, facility recordkeeping and reporting is required if:
(a) the facility has 20 or more doors serving refrigerated space,
(b) perishable goods are loaded or unloaded at the facility for distribution on trucks, trailers, shipping containers or rail cars equipped with TRUs,
(c) TRUs are owned, leased or contracted for by the facility, its parent company, affiliate, or subsidiary, and,
(d) TRUs are controlled by the facility. (See #3, above.)

13. When were the Facility Reports due?

Facility reports were due January 31, 2006. If you missed this date, contact ARB immediately.

14. How should facilities submit the Facility Reports?

Since the due date has passed, a late facility needs to get the facility report submitted to ARB as soon as possible, as penalties continue to accrue until the report is submitted. A late facility report should be faxed to ARB at (916) 327-6251. Call the TRU help line at 1-888-878-2826 and let ARB staff know the report was faxed. Also, next-day mail the three required forms to ARB Stationary Source Division (TRU), 1001 I Street, Sacramento, CA 95814.

15. What enforcement mechanisms will be used to enforce the facilities requirements of this regulation?

ARB's Enforcement Division will periodically inspect and audit facilities' records and compare them to the reports submitted to ARB. These teams will inspect for several ARB programs at the same time.

16. How much will the penalty be if we are found to be in violation?

Failure to report or reporting of false information is a violation of state law and could result in civil penalties. Penalties vary, depending on the circumstances, but can be as high as $35,000 per violation if the defendant knowingly and with intent to deceive, falsifies any required document (e.g. records and reports). Penalties are not excused for negligent recordkeeping and reporting, or not knowing about this regulation. Penalties for late reporting may be up to $1,000 per day, but may be reduced if the facility self-reports a violation. Penalties for late reports accrue on a daily basis, so it is important to comply as soon as possible.

17. What will the information facilities report be used for?

Staff will use the information to better understand TRU activity and emissions at facilities and evaluate how effective the TRU ATCM is at reducing public health risk near facilities.

18. Could facilities be required to assist with enforcement by reporting TRU operator violations?

The ATCM does not require facilities to report violators; but, facilities could voluntarily report observed violations to ARB. Such self-reporting is often viewed favorably when determining penalties.

19. What is an intermodal facility?

For the purposes of the TRU ATCM, an intermodal facility is a facility involved in the movement of goods in one and the same loading unit or vehicle which uses successively several modes of transport without handling of the goods themselves in changing modes of transport. Such a facility is typically involved in loading and unloading refrigerated shipping containers and trailers to and from railcars, trucks, and ocean-going ships.

20. Are intermodal facilities affected by the TRU ATCM's facility reporting requirements?

No, not according to the strict definition of the term "intermodal facility". Intermodal facilities are not subject to the facility reporting requirements of the TRU ATCM if there is no handling of the perishable goods themselves in changing modes of transport. If there is handling of perishable goods, then the facility would not technically be an intermodal facility, by our definition. It's possible the ATCM could apply to facilities that consider themselves intermodal facilities, even though they unload perishable goods from shipping containers and load refrigerated trailers and rail cars for transport on land. Staff recommends the reader pay close attention to the definitions of facility and intermodal facility, and which facilities are subject to the TRU ATCM.

21. Our facility did not submit a Facility Report by the January 31, 2006 deadline. What do we do now?

Facilities that find themselves out of compliance with facility recordkeeping and reporting requirements should immediately notify the Air Resources Board's (ARB) Stationary Source Division (SSD). Call Rod Hill at 916-327-5636.

Three reporting forms are required and can be downloaded from the TRU website (http://www.arb.ca.gov/diesel/tru.htm):

a) Business form (pick the appropriate form for the type of business (e.g. partnership, corporation, limited liability corporation)
b) Facility Reporting Form
c) TRU Inventory Form

These forms need to be filled out and submitted at your earliest opportunity. Chances are that you did not conduct the summer and winter 48-hour recordkeeping that is necessary to answer Facility Reporting Form items #19 and #20 (see *FAQ and Guidelines* item #10, above). You may leave these items blank for now. Attach a cover letter to your submission explaining any blank items.

Examples of hour meter reading cases:
The following examples are not intended to be a complete list of all possible cases, but is intended to provide guidance on data collection and use.

1. A vendor's TRU-equipped trailer enters the gate to deliver refrigerated goods to the distribution center and an hour meter reading is taken. This trailer leaves after unloading and an hour meter reading is taken. The entry and exit hour meter readings would be used to determine the TRU engine operating time for the inbound load and this time would be used in the calculation of *average TRU engine operating time per inbound refrigerated load*.

2. A TRU-equipped trailer enters the gate with a dry-goods-only load and an hour meter reading is taken. This trailer leaves with a dry-goods-only load and an hour meter reading is taken.
   - If the trailer is not used for cold storage between entry and exit, then hour meter readings are disregarded and not used in calculation of TRU engine operating time or averages.
   - If the trailer is used for cold storage while at the facility then hour meter readings only apply to accrual of cold storage TRU engine operating time. Hour meter readings would not be used for calculation of average TRU engine operating time at the fascility.

3. A TRU-equipped trailer enters the gate with a dry-goods-only load and an hour meter reading is taken. This trailer leaves loaded with refrigerated goods and an hour meter reading is taken.
   - If the trailer is not used for cold storage between entry and exit, then the hour meter readings would be used to determine the TRU engine operating time for an outbound load and the time would be used in the calculation of *average TRU engine operating time per outbound refrigerated load*.
   - If the trailer is used for cold storage while at the facility, then an intermediate hour meter reading would be required at the end of cold storage operation. The entry hour meter reading and intermediate hour meter reading would apply to accrual of cold storage TRU engine operating time. The intermediate hour meter reading and exit hour meter reading would be used to determine the TRU engine operating time for an outbound load and the time used in the calculation of *average TRU engine operating time per outbound refrigerated load*.

4. A TRU-equipped trailer enters the gate with a refrigerated load and an hour meter reading is taken. This trailer leaves with dry goods and an hour meter reading is taken.
   - If the trailer is not used for cold storage between entry and exit, then the entry and exit hour meter readings would be used to determine the TRU engine operating time for an inbound load and the time used in the calculation of *average TRU engine operating time per inbound refrigerated load*.
   - If the trailer is used for cold storage between entry and exit then an intermediate hour meter reading would be required at the beginning of cold storage operation. The entry hour meter reading and intermediate hour meter reading would be used to determine the TRU engine operating time for an inbound load and the time used in the calculation of *average TRU engine operating time per inbound refrigerated load*. The exit hour meter reading would be disregarded.

5. A TRU-equipped trailer enters the gate with a refrigerated load and an hour meter reading is taken. All refrigerated goods are unloaded. This trailer leaves with a refrigerated load and an hour meter reading is taken.
   - If the trailer is not used for cold storage between entry and exit, then an intermediate hour meter reading would be taken when the unloading was completed, but before start-up for pre-chilling for the outbound load. The entry and intermediate readings would be used to determine the TRU engine operating time for an inbound load and the time used in the calculation of *average TRU engine operating time per inbound refrigerated load*. The intermediate and exit readings would be used to determine the TRU engine operating time for an outbound load and the time used in the calculation of *average TRU engine operating time per outbound refrigerated load.*
   - If the trailer is used for cold storage between entry and exit then an intermediate hour meter reading would be required when unloading of the inbound load was completed, but before startup for pre-chilling for cold storage. In addition, a second intermediate reading would be required at the end of cold storage operations, but before start-up for pre-chilling for the outbound load. The

entry hour meter reading and first intermediate hour meter reading would be used to determine the TRU engine operating time for an inbound load and the time used in the calculation of *average TRU engine operating time per inbound refrigerated load*. The first and second intermediate hour meter readings would be used to determine the cold storage TRU engine operating time. The second intermediate and exit readings would be used to determine the TRU engine operating time for an outbound load and the time used in the calculation of *average TRU engine operating time per outbound refrigerated load*.

IV. For Operators of TRUs:

1. What is a TRU?

A TRU is a refrigeration system that is powered by integral internal combustion engine, designed to control the environment of temperature sensitive products that are transported in trucks and refrigerated trailers. Refrigeration systems that are powered off the engine used to propel the vehicle are not considered TRUs (e.g. belt-driven refrigeration compressors mounted on the motor vehicle engine).

2. What is the definition of refrigerated trailer?

A refrigerated trailer is a trailer van, railcar, or shipping container equipped with a TRU or TRU gen set.

3. What is an operator?

An operator is any person, party or entity that operates a TRU or TRU gen set for the purposes of transporting perishable goods. For enforcement actions, an employee driver or third party maintenance and repair service person is excluded from responsibility.

4. What is an owner?

An owner is any person that legally holds the title (or its equivalent) showing ownership of a TRU or TRU gen set, excluding a bank or other financial lending institution.

5. What is an owner/operator?

Use of the term owner/operator means a requirement applies to the owner and/or operator of a TRU or TRU gen set, as determined by agreement or contract between the parties if the two are separate business entities.

6. Does the TRU ATCM apply to TRUs based outside of California?

Any TRU that operates in California, including those based outside of California, will need to meet California's in-use performance standards on the same schedule as California-based TRUs. Owner/operators of TRUs based outside of California may voluntarily apply for an ARB identification number (IDN) at any time of their choosing. Use of IDNs will speed up inspection times.

7. Is there an exemption for TRUs that are rarely used?

No. All TRUs operating in California are subject to this regulation.

8. What are the requirements that apply to operators of in-use TRUs?

The TRU ATCM requires in-use TRU and TRU generator set engines that operate in California, to meet in-use performance standards that vary by horsepower range. These standards can be met by:

a) Using an engine that meets the required engine certification value, or
b) Retrofitting the engine with the required level of verified diesel emission control strategy, or
c) Using an Alternative Technology.

The In-Use Performance Standards have two levels of stringency (see Tables 1 & 2) that will be phased-in over time (see compliance dates in Table 3). The Low-Emission TRU In-Use Performance Standards (LETRU) shown in Table 1 are phased in first and apply to model year 2002 and older TRUs. The more stringent Ultra-Low-Emission TRU In-Use Performance Standards (ULETRU) shown in Table 2 must be met by all TRUs that operate in California in future years.

Table 1
Low-Emission In-Use Performance Standards

Horsepower	Engine Certification	Verified Diesel Emission Control Strategy
less than 25	0.30 gram per hp-hr	Level 2 or better (at least 50% PM reduction)
25 or greater	0.22 gram per hp-hr	Level 2 or better (at least 50% PM reduction)

Table 2
Ultra-Low Emission In-Use Performance Standards

Horsepower	Engine Certification	Verified Diesel Emission Control Strategy
less than 25	Not Applicable – use other option	Level 3 (at least 85% PM reduction)
25 or greater	0.02 gram per hp-hr	Level 3 (at least 85% PM reduction)

Alternative Technologies can be used to meet LETRU and ULETRU if diesel PM emissions are eliminated while at a facility, with limited exceptions (e.g. during an emergency or normal yard maneuvering). They include use of:

a) Electric standby,
b) Cryogenic temperature control systems or hybrid cryogenic temperature control systems,
c) Alternative fueled engines,
d) Alternative diesel-fueled engines,
e) Fuel cell-powered temperature control systems, and
f) Other systems approved by ARB to not emit diesel PM or increase public health risk near a facility.

Owners of TRUs based in California are required to apply for an ARB identification number (IDN) and submit an Initial Operator Report to ARB that provides information about the TRUs they operate in California. Only owners of TRUs are allowed to submit IDN applications. Operator Report Updates and IDN applications will need to be provided as TRUs are leased, purchased, or sold. The regulation also requires Operator Report Updates and IDN Information Revisions to be submitted to ARB within 30 days of information changes. Owner/operators of non-California-based TRUs and TRU generator sets may choose to voluntarily apply for an IDN. The coded IDNs include information that will reduce roadside inspection time.

9. When are TRU engines required to meet the in-use performance standards?

TRUs and TRU generator sets that operate in California will be required to meet the in-use performance standards on a phased compliance schedule, based on the engine model year (MY). Older TRU engines, for example MY 2001 and older and MY 2002 engines, will be required to come into compliance first with LETRU in 2008 and 2009, respectively, and will then be subject to the more stringent ULETRU standard seven-years later, in 2015 and 2016, respectively. Newer TRU engines, for example 2003 and subsequent engines, bypass the LETRU standard, but will be required to meet the ULETRU standard seven years after the model year. Table 3 shows the compliance schedule.

Table 3
In-Use TRU and TRU Generator Set Compliance Schedule

Engine Model Year	Compliance Date for Low Emission Std	Compliance Date for Ultra-Low Emission Std
2001 or older	December 31, 2008	December 31, 2015*
2002	December 31, 2009	December 31, 2016*
2003	N/A	December 31, 2010
Future years	N/A	December 31st of the model year + 7 years

* Early compliance (in 2005 to 2007) with the low emission in-use standard for model year 2002 or older may extend compliance date for ultra-low emission standard by up to three years.

10. When are the operator reports due?

Initial operator reports are due at ARB on or before January 31, 2009. Updated reports must be submitted within 30 days of any changes to the reported operator information. Hardcopy forms will be available online at the TRU website (http://www.arb.ca.gov/diesel/tru.htm), starting early December 2008. You may also request hardcopy forms to be sent to you by regular mail (call the TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM)).

11. When are the ARB Identification number applications due?

ARB identification number (IDN) applications are due at ARB on or before January 31, 2009. Hardcopy forms will be available online at the TRU website (http://www.arb.ca.gov/diesel/tru.htm), starting early December 2008. You may also request hardcopy forms to be sent to you by regular mail (call the TRU Help Line at 1-888-878-2826(1-888-TRU-ATCM)). Only TRU owners are allowed to submit IDN applications.

12. What information must be included in the application for the ARB identification number?

In addition to the owner contact information (and operator contact information, if different), the following information is required for each TRU:

a) TRU make, model, model year, and serial number.

b) TRU engine make, model, model year, and serial number.

c) Terminal(s) that the TRU-equipped truck or trailer is assigned to with address and contact information.

d) Other identification numbers that are related to the equipment, which may include (as applicable):

i. Vehicle Identification Number (VIN) of the TRU-equipped truck or trailer.
ii. Vehicle license number of the TRU-equipped truck or trailer.
iii. Railcar recording mark and car number.
iv. Shipping container number (for TRU-equipped shipping containers only).
v. Company equipment number or asset number (if any).

e) Compliance status with in-use performance standards (TRU ATCM paragraph (e)(1)(A) requirements).

i. What performance standard has been met (for example, LETRU, ULETRU, or None).
ii. Date when compliance was achieved (if applicable).
iii. How compliance was achieved (for example, Installed VDECS).
iv. Identify who did the installation work (if applicable).

13. What are the recordkeeping and reporting requirements that apply to operators of in-use TRUs?

Initial Operator Reports are required from all TRU operators that have TRUs based in California. These reports are due at ARB on or before January 31, 2009. In addition to basic contact information for the operator's responsible official, the operator report must include specific information related to the California-based TRUs they operate (including rented or leased TRUs):

a) List of all terminals owned or leased by the operator that are located within California, with address, phone number, and terminal contact name.

b) If IDNs have already been issued, list all ARB identification numbers (IDN) for all TRUs in the operator's inventory that are based in California that are owned or leased by the operator. If IDNs have not yet been issued, the following TRU inventory information for each TRU and TRU gen set based in California and operated by the operator is required:

i. TRU make, model, model year, and serial number.
ii. TRU owner, and if other than operator, owner name, address, and contact.

iii. TRU engine make, model, model year, and serial number.
iv. Terminal(s) that the TRU is assigned to.
v. Vehicle and TRU identification numbers (as applicable):
    1) Vehicle Identification Number
    2) Vehicle license number
    3) Railcar recording mark and car number
    4) Shipping container number (for TRU-equipped shipping containers only)
    5) Company equipment or asset number

c) Compliance status with the in-use performance standards (refer to TRU ATCM paragraph (e)(1)(A)). If compliance is not required by the reporting date, then indicate "Not due".

14. How should owners submit the ARB identification number applications and how should operators submit operator reports?

Only TRU owners are allowed to submit ARB identification number (IDN) applications. Owners can mail hardcopy IDN applications and operators can mail the initial operator reports to ARB Stationary Source Division (TRU), 1001 I Street, Sacramento, CA 95814. Alternatively, applications and reports can be submitted online through ARB's website. Hardcopy forms and the online option will tentatively be available by early December, 2008.

15. Since the ARB identification number application and operator report asks for some of the same information, do I have to submit both of them?

Only TRU owners can submit ARB identification number (IDN) applications. The IDN applications may be submitted before the Initial Operator Report so that the operator only needs to list IDNs in the operator report. This is the best sequence of events, since it may save time. Alternatively, IDN applications may be submitted at the same time as the operator report. Operators of leased or rented TRUs will need to coordinate IDN applications and Initial Operator Reports with the owner (lessor). Please see the compliance assistance document titled How Do I Comply with the TRU ATCM, and read "Ref 9 – Procedures for Leased and Rented TRUs." This document is available at the TRU website at http://www.arb.ca.gov/diesel/tru.htm.

16. What is the definition of a California-based TRU?

A California-based TRU is a TRU-equipped truck, trailer, shipping container, or railcar that a reasonable person would find to be regularly assigned to terminals within California.

17. What about TRUs I lease and operate in California?

Owners and operators are responsible for making sure that all of the TRUs they own or operate in California comply with the TRU ATCM. Lessors (owners) are typically responsible for ensuring the equipment they provide is in compliance with regulatory requirements. Occasionally, contractual agreements deviate from this norm. The operator may need to negotiate new contracts with the owner (lessor) in time to ensure the equipment they lease meets the in-use performance standards by the compliance dates. If an operator is found to be operating in California with a non-compliant leased or rented TRU, the operator will be cited for the infraction and a penalty would be assessed. The lessor would also be cited, since lessors are prohibited from leasing or offering for lease any TRU for use in California that does not comply with the TRU ATCM. Please see the compliance assistance document titled How Do I Comply with the TRU ATCM, and read "Ref 9 – Procedures for Leased and Rented TRUs." This document is available at the TRU website at http://www.arb.ca.gov/diesel/tru.htm.

18. I operate TRUs in California and have terminals in California where these TRUs are assigned. What do I need to do to be in compliance?

a) Owner/Operators are responsible for making sure that all of the TRUs they operate in California comply with the TRU ATCM. TRUs that operate in California must comply with the in-use

performance standards shown in Tables 1 and 2 by the compliance dates shown in Table 3. (See questions 8 and 9 of this section.)

b) TRU owners must apply for an ARB identification number by January 31, 2009, for all TRUs based in California. TRUs added to the TRU operators California-based operations after January 31, 2009 shall comply with the ARB identification number application process within 30 days of the unit entering the operator's control. (See questions 11 and 12 of this section.)

c) TRU operators with TRUs based in California must submit an initial operator report by January 31, 2009 that covers all TRUs they operate that are based in California. The operator report must be updated within 30 days when changes to the information occur. (See questions 10 and 13 of this section.)

19. I operate TRUs in California, but I don't have any terminals in California where TRUs are assigned. What do I need to do to be in compliance?

a) Owner/operators are responsible for making sure that all of the TRUs they operate in California comply with the TRU ATCM. TRUs that operate in California must comply with the in-use performance standards shown in Tables 1 and 2 by the compliance dates shown in Table 3. (See questions 8 and 9 of this section.)

b) Owners of non-California-based TRUs may voluntarily apply for ARB identification numbers (IDN) for TRUs that are based outside of California but operate within California periodically. IDNs will speed up inspections at border crossings, scales, and distribution centers.

c) Operators of non-California-based TRUs are not required to submit operator reports. Operator reports are only required for California-based TRUs.

20. What kind of enforcement mechanisms will be used to detect violations of the ATCM?

ARB's Enforcement Division will conduct inspections at border crossings, roadside inspection stations TRU operators' terminals, and distribution centers. ARB staff will also audit records and compare them to the reports submitted to ARB.

21. What kind of penalties could result from violations of the TRU ATCM?

Penalties will depend on the specific violation. Failure to report or reporting of false information is a violation of state law and could result in civil penalties. Such penalties can vary, depending on the circumstances, but can be as high as $35,000 per violation if the defendant knowingly and with intent to deceive, falsifies any required document (e.g. records and reports). Violations of in-use requirements could result in penalties that range from $1,000 per day up to $50,000 per day or one year imprisonment, or both. Penalty provisions are set forth in the Health and Safety Code sections 39674, 39675, 42400 et seq., 42402 et seq., and 42410.

22. I think my original equipment TRU engine complies with the low-emission TRU in-use performance standard, so what do I do?

Qualifying for this compliance option may be difficult and expensive. ARB has learned that emissions of in-use TRUs are much dirtier than expected because some manufacturers have elected to require emissions-related maintenance at intervals that are not effective in controlling engine emissions deterioration. Also, most TRU owners do not complete the scheduled emissions-related maintenance unless there is a performance problem. That means we cannot simply rely on the new engine certification values to meet the in-use performance standards. In-use engine testing would need to be conducted to show that in-use emissions are meeting LETRU throughout the compliance period. A documented emissions-related maintenance program would be required to periodically restore emissions to the “new” specification, meeting the in-use performance standard.

23. Are there any incentives for early compliance?

Yes. For 2002 and older model year TRU engines that meet the LETRU in-use performance standard earlier than required, the operator may apply for a delay in the deadline for meeting the ultra-low-emission TRU (ULETRU) in-use performance standard. Early compliance is conditioned

upon real emission reductions occurring. For example, in complying with the LETRU in-use performance standard, the operator must have taken an action that results in real reductions of diesel particulate matter, like installing a verified diesel emission control strategy so that the PM emission rate is reduced by more than 50 percent. One year of early compliance with the LETRU standard earns a one year delay in the deadline for the ULETRU in-use standard. Likewise, two years early compliance earns two years delay. No more than three years delay can be earned.

24. If I bring a TRU into compliance early with the LETRU in-use performance standard for a part of a year, how much of a delay in the ULETRU compliance date would I be rewarded?

Partial years of early compliance with the low-emission TRU in-use performance standard (LETRU) are rounded to the nearest year. Early compliance of 183 days or more in a calendar year (on or before July 2nd) would count for one full year of delay. Table 4 illustrates the reward possibilities.

Table 4
Early Compliance Incentives

Amount of early compliance with LETRU	Reward - Delay in ULETRU Compliance
2-years and 183 days or greater	Three years
1-year and 183 days to 2-years and 182 days	Two years
183 days to 1-year and 182 days	One year
Less than 182 days	None

25. Do I have to get permission for early compliance extensions?

No, but you must apply to ARB for a delay in the ULETRU compliance date as part of the operator reporting and ARB identification number application requirement. If you notify ARB as required, then this information will be in our records when our inspectors check to see if you are in compliance. If you haven't notified ARB, then you may be considered to be in violation with the ULETRU compliance deadline.

26. What other incentives are available?

Please check the Carl Moyer Program (CMP) at http://www.arb.ca.gov/msprog/moyer/moyer.htm and click on the Multi-District tab. State guidelines now allow the use of these funds to pay for a portion of the capital (hardware) and installation costs associated with the early use of control technologies that reduce emissions of diesel PM, nitrogen oxides, and/or hydrocarbons. These emission reductions have to be surplus, meaning they must not be required by a regulation (such as the TRU ATCM). Therefore, application for these funds and early compliance, at least three (3) years before the TRU ATCM compliance deadline, would be necessary to qualify under the CMP Guidelines. Please be aware that CMP grant funds are limited and they are awarded on a competitive basis.

In addition, local air districts have rules that govern the generation of emission reduction credits (ERC), which can be sold to offset the cost of compliance. Because the reductions will only be surplus until the TRU ATCM compliance deadline, the emission reductions could not be considered permanent. So, all TRU ERCs generated would have to be used in special short-term ERC trading programs. There are a number of other special considerations that need to be understood, so the operator is urged to consult with their local air district early in the process.

27. What does it mean to say that a diesel emission control strategy has been verified?

Before a diesel emission control strategy can be used to comply with the TRU ATCM, it must be verified by ARB. This means, in part, the diesel PM emission reductions have been confirmed by testing. Durability testing shows the strategy will continue to reduce PM emissions within the applied-for verification classification level after a minimum durability period, and the manufacturer provides the minimum warranty required by law. Alternative Technologies that use alternative diesel fuels or

fuel additives also must go through multi-media assessment and in-use verification before they can be used to comply with the TRU ATCM.

28. Are there any verified diesel emission control strategies available now?

Yes. The TRU website lists verified diesel emission control strategies (VDECS) that meet Level 2 and Level 3 for the TRU application. As of June 2007, there are two listed and others are working through the verification process. ARB is also aware of several options that qualify as Alternative Technologies that are now in production and commercially available (e.g. electric standby and cryogenic systems). Installing these systems would meet both the LETRU and ULETRU in-use performance standards. TRU owner/operators should ask the TRU manufacturers what they are offering or planning to offer to bring in-use TRUs into compliance. In addition, owner operators should look for opportunities to learn about VDECS that may be available from manufacturers of diesel emission control systems. VDECS are listed on the following websites: http://www.arb.ca.gov/diesel/tru.htm and www.arb.ca.gov/diesel/verdev/verdev.htm. These lists are updated periodically.

29. How can fleets learn about compliance technologies being developed?

Review the Executive Orders for the verified diesel emissions control strategies (VDECS) that are listed on the Verification website (see the links cited in the question immediately above). Ask the TRU manufacturers, distributors, and service centers what they recommend for your engine. Ask VDECS manufacturers for information and whether there have been any technical papers written about their VDECS. Request a preview of the VDECS owner's manual. Ask for references (those involved in earlier demonstrations and/or those that have purchased VDECS). DECS manufacturers that are beginning the verification process may be willing to provide a free demonstration, prior to receiving verification approval (it is unlawful to sell diesel emission control strategies that have not been verified). Make sure, by reading the Executive Order, that the VDECS you are considering for purchase is an approved match for your TRU engine. Conduct research on the Internet (search for diesel particulate filter, diesel emission control systems, etc.). Consider hiring a consultant.

30. What happens if there is no commercially available verified diesel control strategy for compliance with the TRU ATCM?

A technology review is being conducted in 2007 to ensure verified diesel emission control strategies (VDECS) will be available for a broad range of TRU engines in time for end of 2008 compliance (2001 and older model years needing to meet the low-emission TRU in-use performance standard (LETRU)). Another technology review may be conducted in 2009 to ensure VDECS meeting the Ultra-Low-Emission TRU in-use performance standard (ULETRU) are available by the end of 2010 for 2003 and subsequent model years. Considering that there are 2 VDECS for TRUs that are already available as of June 2007 and others that are in various stages of verification, staff is confident there will be adequate VDECS available by mid-2008. Staff will continue to monitor this and investigate gaps in availability that come to our attention.

Do not wait until the last minute to investigate compliance options. The owner is encouraged to begin investigating now and document what they have done to develop and implement their compliance plan. If after investigating compliance options, a TRU owner believes there is no compliance option available to them, they should call the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM), report the lack of a compliance option, and request assistance. Staff will need to thoroughly understand why the owner believes there is no compliance option available. ARB will request written explanations that describe in detail what compliance options were considered and why they were found to be unacceptable. This proof is needed to help staff explain to the Board and other interested stakeholders why certain applications may need to be allowed a temporary accommodation.

31. TRU generator sets have very limited space inside the housing for VDECS and it would be unacceptable to mount them outside the housing. What if we find that there are no acceptable compliance options for our TRU gen sets?

The answer to this question is really the same as the answer to the question immediately above. Document the problem and the proactive steps you have taken to find a compliance option, call the TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM), request assistance, and put your problem in writing to ARB. Staff will closely monitor these kinds of problems and may be able to provide a temporary accommodation if it is warranted. However, the operator must be proactive in finding a solution.

32. If I have ordered a VDECS (or other compliance option), but there is a bottleneck in the supply chain or at installation shop, what do I do?

The answer to this question is similar to the two questions immediately above. Do not wait until the last minute to order your compliance options. The onus is on the owner to show they have initiated steps to come into compliance reasonably early, allowing a reasonable amount of time for the suppliers to provide and install the compliance system. What is a reasonable amount of time? Probably about six months. Document your compliance plan and efforts to comply reasonably early. Be sure to save order invoices. Call the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM), report the bottleneck, and request assistance. Staff will monitor this closely and will need to thoroughly understand what lead to the bottleneck and whether the owner exercised due diligence. ARB will request written explanations and copies of invoices that describe in detail and prove what happened. This information is needed to help staff explain to the Board and other interested stakeholders why certain parties may need to be allowed a temporary accommodation.

33. Can owner/operators comply with the in-use performance standards by using a VDECS or a qualifying Alternative Technology, without necessarily complying with the engine certification part of the in-use performance standard (e.g. the g/hp-hr part)?

Yes. There are many ways to comply. Using an engine that is less than seven years old, based on the engine model year is one way to comply (replace an old engine with a new or newer engine. Another way is to use a VDECS that meets the appropriate verification Level (e.g. Level 2 for the LETRU in-use standard and Level 3 for the ULETRU in-use standard). Another is to use one of the Alternative Technologies (electric standby, cryogenic, alternative fuel, alternative diesel fuel, fuel cell, or any other technology approved by the Executive Officer that eliminates diesel particulate matter emissions while at a facility.

34. If an operator had a TRU that was equipped with electric standby before the LETRU compliance date, can they count this as early compliance and thus get a delay in the ULETRU compliance date?

If the operator can show the TRU is plugged in at all times while at a distribution facility, thus eliminating the TRU diesel engine operation while at a facility, this approach would qualify as an Alternative Technology. As such, it would meet both LETRU and ULETRU, and would therefore not need a delay for ULETRU. To prove compliance, recordkeeping/documentation would be needed to show TRU engine operation is eliminated at the facility, except during emergencies and normal yard maneuvering.

35. What kind of recordkeeping is required to show electric standby or hybrid electric/diesel equipment eliminates TRU diesel engine operation at a distribution center?

The following records, in combination, could be used to demonstrate diesel engine operation is eliminated while at the distribution center:

- Gate time stamps at exit and entry.
- Diesel fuel consumption records.
- Daily engine hour meter readings.
- Daily E/S hour meter readings.

36. I have a TRU equipped with electric standby. To qualify as "Alternative Technology", do I have to make sure all facilities this TRU delivers to are equipped with a compatible electric outlet?

The Staff Report (Chapter VII, p. VII-7) discusses staff's intent to allow electric standby (E/S)-equipped TRUs a reasonable amount of TRU engine operation at a shipping or distribution facility for ingress/egress and maneuvering. "Reasonable" means a few minutes. However, in the case where a TRU spends more time with the TRU engine running at a distribution center while waiting for a loading dock space, or typically runs the TRU engine for longer duration while at a distribution center for other reasons, E/S-equipped TRUs would be required to be plugged in to qualify. It is important to note that this tolerance may be interpreted to mean that not every facility that an E/S-equipped TRU visits would need to have electric power plugs available. It should also be noted that E/S may be a more appropriate compliance strategy for "captured" fleets, which are owned and operated by the distribution center. E/S may not be a good compliance option for TRU fleets that deliver to distribution centers they don't own or control (where electric power plugs may not be available). Fleets using E/S as a compliance option would be responsible for ensuring they can plug in at all distribution centers where they operate their TRUs.

E/S-equipped TRUs are allowed to make short-duration stops without plugging in to unload refrigerated goods at restaurants, grocery and convenience stores, and similar facilities, provided:

- No more than two TRUs are present at a time, and
- The delivery stay is no longer than 30 minutes.

E/S-equipped TRUs would be required to plug-in at restaurants, grocery and convenience stores and similar facilities to qualify for compliance if these limits are exceeded.

Under the adopted TRU ATCM, the use of the E/S option to meet the low-emission TRU (LETRU) in-use performance standard is allowed, provided operations are conducted in accordance with those described above.

37. What is this going to cost?

Costs for verified diesel emission control strategies (VDECS) will depend on market forces. For example, if there are many VDECS manufacturers competing for the available market when compliance dates are approaching, this would tend to drive the costs down. If many TRU operators wait to comply until the last minute, creating greater demand, this would tend to drive costs up. Economies of scale would also reduce costs as production sales numbers go up.

Cost estimates from manufacturers showed a range from $3,500 to $6,000 per TRU for Level 2 VDECS (meets LETRU) and $3,000 to $6,000 per TRU engine for Level 3 (meets ULETRU). Staff anticipates costs will settle down as more VDECS are verified and competition increases.

38. Does ARB charge any fees for services under this regulation (e.g. issuing the ARB identification number)?

No.

39. Are there any programs that might help with compliance costs?

In some areas of the state, you may qualify for incentive funding if you comply early. Depending on the incentive program, compliance may need to be achieved up to five years early to meet the project "life" requirements. Contact your local air district representative who manages the "Carl Moyer Program" or other incentive programs in your area.

40. What if I'm planning to retire a TRU a few years after the compliance deadline?

Operators have the choice of complying with the TRU ATCM by using one of the many compliance options, selling non-compliant TRUs out of state, or scrapping non-compliant TRUs. The TRU ATCM provided over four and a half years before the in-use performance standards begin to be phased in.

This is plenty of time to develop compliance strategies, and modify capital expenditure and business plans.

41. If I am selling or leasing TRUs in California, do these TRUs have to be in compliance with the TRU ATCM?

Yes. Once a compliance deadline passes for a TRU model year, it is not legal to sell, offer for sale, lease, offer to lease, rent, or offer to rent a TRU for use in California that does not meet the in-use performance standards in the ATCM.

42. Is fleet averaging possible? Can I get a compliance extension for some TRU engines if I comply ahead of schedule for other TRUs?

No. Staff considered this during rule development and found that it would be too difficult to enforce. Staff does not believe this approach would produce verifiable emission reductions that would be equivalent to what is needed to reduce near-source health risk to acceptable levels.

43. What if I want to volunteer to participate in demonstration projects of new technology to reduce diesel PM?

ARB encourages fleet owners to participate in approved demonstration projects and keeps a list on "Interested Fleets – for Demonstrations", which we provide to diesel emissions control strategy manufacturers that are interested in developing VDECS for TRUs. It is against State law to charge the TRU owner/operator for demonstrations prior to receiving in-use verification approval, so demonstrations are "free".

If the TRU engines have been certified then any modification, including the addition of a PM filter, the demonstration would need an experimental permit from ARB. This is designed to prevent tampering, while allowing testing and evaluation of new emission control technology. The manufacturer typically applies for this permit.

For TRUs and TRU generator sets, the offroad diesel engine categories that have been certified are listed below:

Power Rating	Model Years
Less than 25 hp (less than 19 kW)	1995 and newer
25 hp (19 kW) to 49 hp (37 kW)	1999 and newer
50 hp (37 kW) to 99 hp (74 kW)	1998 and newer
100 hp (75 kW) to 174 hp (130 kW)	1997 and newer
175 hp (130 kW) to 299 hp (223 kW)	1996 and newer

Typically the diesel emission control strategy manufacturer will need to apply for an experimental permit by providing information on the modifications they plan to do, what type of tests they will perform, the engines involved (model year, make and how many) and disposition of the modified engine or part at the end of the permit.

If the manufacturer plans to market the DECS in California then they will need an anti-tampering exemption from California Vehicle Code §27156 and 38391. The procedures for obtaining an exemption for add-on and modified parts for offroad engines can be found at the following website:

http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm#offroad

Click on the link for *Offroad Vehicles, Engines, and Equipment*. An application form is included as one of the links.

44. If I decide to use an alternative diesel fuel to comply, what are the requirements?

Operators choosing to use alternative diesel fuels (e.g. 100% biodiesel (B100) or 100% Fischer-Tropsch synthetic diesel fuel (F-T100)) to comply with the TRU ATCM's in-use performance standards (both LETRU and ULETRU) must meet certain requirements to qualify. First and foremost, the operator must fuel the TRU exclusively with an alternative diesel fuel that meets the definition of

alternative diesel fuel and has been verified by ARB as a VDECS. This means that there can be no conventional diesel fuel used in the TRU engine. Records must therefore be maintained to document the exclusive use of the chosen fuel and the hours of operation for each affected engine so that compliance can be verified. Appropriate records would be receipts or invoices for the fuel and daily operating hour meter logs. Records must be made available to ARB inspectors upon request, going back at least three years. In addition, a label must be permanently affixed to the fuel tank near the fill spout in plain view that identifies the proper fuel that is required to achieve compliance.

45. Can particulate filters damage TRU engines?

TRU engine operations must be conducted in a way that conforms to the diesel emissions control systems manufacturer's owner's manual. Attention to proper use and maintenance details will help avoid the potential for engine damage. For example, ignoring a backpressure warning light may result in damage to the retrofit device and may stop the engine. Proper training for drivers and yard personnel should greatly reduce the chance of this happening.

46. Do diesel emission control strategies come with a warranty?

Yes. ARB's verification procedures for TRU VDECS hardware requires a warranty, as follows:

Engine Size	Minimum Warranty Period
Under 25 hp	3 years or 1,600 hours[1]
At or above 25 hp and under 50 hp	4 years or 2,600 hours[1]
At or above 50 hp	5 years or 4,200 hours[1]

1. Whichever occurs first

47. Do I have to replace a failed trap or catalyst?

Yes. A failed device that is still in warranty must be replaced with the same device. Once the warranty has expired, the owner must use the highest level of VDECS available for the TRU engine as a replacement, if it has been determined to be cost-effective.

48. What are the requirements for displaying the ARB identification number?

Within 30 days of being issued by ARB, the operator must permanently affix or paint the IDN on both sides of the TRU housing. Letters and numbers must contrast sharply in color with the color of the background surface on which the letters are placed and be readily legible during daylight hours within 50 feet. Markings must be maintained in a manner that retains this legibility.

49. If there is not enough space on the side of the TRU to display the ARB identification number, what do I do?

Contact the TRU Help line at 1-888-878-2826 (1-888-TRU-ATCM) to begin applying for an alternative compliance method. You will need to explain your conflict in writing, provide pictures of the units in question that clearly show the problem, and provide all other identification numbers currently on the unit that may serve as a substitute. The substitute numbers will be required to meet the contrast and legibility requirements cited in the item immediately above. Written approval of an alternative compliance method must be obtained from ARB.

For more information about TRUs

You can visit any of several ARB sites dealing with the TRU ATCM and reducing risk from diesel engines. The best place to start is the TRU website at www.arb.ca.gov/diesel/tru.htm. To obtain a copy of the regulation, ARB staff report, and other related documents, visit our web site at http://www.arb.ca.gov/regact/trude03/trude03.htm. Additional questions may be addressed to the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM).

If you have a disability-related accommodation need, please go to http://www.arb.ca.gov/html/ada/ada.htm for assistance or contact the ADA Coordinator at (916) 323-4916. If you are a person who needs assistance in a language other than English, please contact the Bilingual Coordinator at (916) 324-5049.

V. Hazardous Waste from DPFs and DOCs

Individuals who own, operate, or maintain diesel engines equipped with diesel particulate filters (DPFs) or diesel oxidation catalysts (DOCs) may need to manage hazardous waste generated by these devices. Information is provided in this chapter on the generation and composition of ash, hazardous waste determination requirements, an evaluation of current cleaning techniques for DPFs, and provides directions on the appropriate disposal of ash from DPFs. The guidance also addresses the proper disposal of DPFs and DOCs once they are spent.

ASH GENERATION BY A DPF

1. How is ash generated?

A diesel particulate filter physically traps and collects diesel soot from engine exhaust. While the trapped soot is burned off through filter regeneration, metal oxide "ash" particles are not burned. Over time, the unburned ash will plug the filter unless the filter is periodically cleaned.

2. Why is ARB concerned about ash management?

We believe that the ash in a DPF may be properly classified as hazardous waste in California because in all of the tests we have seen, high levels of zinc, a hazardous substance, have been found. California laws, enforced by the Department of Toxic Substances Control (DTSC), require that you properly manage a hazardous waste. It is illegal to throw hazardous waste away in ordinary trash, or to dispose of hazardous waste by burying, burning, blowing it into the air, or placing it into water or down the sewer.

3. How do I clean the DPF to remove ash?

Manufacturers have recommended a variety of filter cleaning techniques to remove the ash from DPFs. ARB cautions you, however, to only follow recommended techniques that are developed under the assumption that the ash is a hazardous waste. Some cleaning methods assume that you can throw away the ash, blow the ash into the air, or dump it into the sewer. None of these methods are legal in California, if the ash is a hazardous waste. You should contact your DPF supplier for instructions on how to properly clean the DPF**.**

To have the least impact on the environment, and because the ash is likely to be a hazardous waste, ARB recommends that a filter be cleaned in an enclosure (i.e., similar to a sandblasting glove box) that exhausts through a high efficiency particulate air (HEPA) filter. The HEPA filter should also be disposed of in accordance with applicable hazardous waste regulations.

4. ARB does not recommend the following cleaning methods, without modifications, if the ash is a hazardous waste:

Compressed Air: One cleaning method entails blowing compressed air through the filter in the direction opposite of the typical flow. If uncontrolled, however, this practice would simply blow the ash into the air/work environment, potentially exposing workers to unsafe levels of zinc and other metal oxides. In addition, this would be an illegal disposal to the air of a hazardous waste. An acceptable modification would be to blow the compressed air into a chamber with a HEPA filter that collects all of the particulates, for eventual disposal as a hazardous waste.

High Pressure Water and Detergent: High-pressure water with or without detergent may be recommended to clean the filter. This method results in wastewater containing metal oxides, possibly being hazardous waste, that could not be discharged to the sanitary sewer or storm drains. Pouring the residue on the ground would also be prohibited. Collecting the waste water and disposing of it through a reputable hazardous waste management company would be acceptable.

Reversing the Filter: Some DPF manufacturers recommend reversing the filter periodically to more evenly distribute the collected particulate on the filter substrate. This practice will simply blow the ash into the air and is not recommended by ARB unless the filter has been previously cleaned using an approved method.

5. How much ash will be generated by a filter?

ARB has heard that the amount of ash collected from a DPF ranges from a couple of teaspoons to one cup.

6. How can I find out if the ash is a hazardous waste?

As a potential generator, you have two options. You can assume the ash is hazardous waste, based on your knowledge that other tests have found it to be so, or you can have your waste tested by a state-authorized testing facility. You can get a list of these facilities from the Department of Toxic Substances Control.

7. What do I do if the ash is a hazardous waste?

You should contact a reputable hazardous waste management company to manage your hazardous waste.

DISPOSING OF A SPENT DPF OR DOC

The ash inside of a spent DPF, and the catalyst material on the substrate of a DPF or DOC, may make the spent DPF or DOC hazardous waste, thus proper management is critical. A spent DOC may be recyclable because of the value of the precious metals that coat the filter. Once the ash and precious metals are removed or recovered, the DPF or DOC may be managed as scrap metal. DTSC regulates used automotive catalytic converters as scrap metal as long as the catalyst material is left in the converter shell during collection and transportation of the converters for recycling. You should contact a reputable hazardous materials management company for more information.

FINDING OUT MORE ABOUT HAZARDOUS WASTE

In California, the Department of Toxic Substances Control has authority over the regulation of hazardous waste. The State's hazardous waste laws are found in the Health and Safety Code, Division 20, and in the California Code of Regulations, Title 22, Division 4.5 . In California, all hazardous waste must be disposed of at a facility that is permitted by DTSC. You can get more information from DTSC by contacting the DTSC Public and Business Liaison at 1-800-728-6942, or http://www.dtsc.ca.gov/ToxicQuestions/index.html for a listing of DTSC's offices statewide.

In addition, you should contact the manufacturer of your DPF or DOC for recommended cleaning and disposal guidance.